



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,376	11/10/2003	Jackson Hsieh	2011141	4341

7590 03/22/2005  
PRO-TECHTOR INTERNATIONAL  
20775 Norada Court  
Saratoga, CA 95070-3018

EXAMINER
----------

KO, TONY

ART UNIT	PAPER NUMBER
----------	--------------

2878

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/705,376

Applicant(s)

HSIEH ET AL.

Examiner

Tony Ko

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "Photosensitive chip" and "encapsulant" have both been used to designate 54. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "50" and "54" have both been used to designate encapsulant. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the

Art Unit: 2878

immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### **DETAILED ACTION**

##### ***Claim Rejections - 35 USC § 112***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: As understood, specification fails to disclose the embodiment in which the encapsulant location as described in claim 1. (See above drawing objections.)

##### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant admitted prior art (AAPA) in view of Narita (U.S. 2002/0167062).

4. Regarding claim 1, as understood, AAPA discloses (Fig. 1) an image sensor package to be electrically connected to a printed circuit board (32), the image sensor comprising: a plurality of lower metal sheets (24) arranged in an array, each of the lower metal sheets having an upper surface (40) and a lower surface (28); a plurality of upper metal sheets (34) arranged in an array, each of the upper metal sheets having an upper surface (38) and a lower surface (26), the lower surfaces of the upper metal sheets being stacked on the upper surfaces of the lower metal sheets; an encapsulant for encapsulating the lower metal sheets and the upper metal sheets, wherein the upper surfaces of the lower metal sheets are exposed from the encapsulant, the lower surfaces of the lower metal sheets are exposed from the encapsulant and electrically connected to the printed circuit board, and the encapsulant is formed with a frame layer around the upper surfaces of the upper metal sheets to define a chamber together with the upper metal sheets to define a chamber (42) together with the upper metal sheets; a photosensitive chip arranged within the chamber; a plurality of wires (20) for electrically connecting the photosensitive chip to the upper surfaces of the lower metal sheets; a transparent layer arranged on the frame layer of the encapsulant to cover the photosensitive chip (18). ADPA does not disclose the upper metal sheets are shorter than that of the lower metal sheet and the upper surface of the lower sheets are exposed to the encapsulant. Narita discloses (Fig. 1) the upper metal sheets are shorter than that of the lower metal sheet and the upper surface of the lower sheets are

Art Unit: 2878

exposed to the encapsulant. It would have been obvious to a person of ordinary skill in the art at the time of the invention to make the upper metal sheets shorter than the bottom metal sheets and the bottom surface would be exposed to the encapsulant to reduce the material use to reduce cost of production.

5. Regarding claim 2, ADPA in view of Narita does not disclose the encapsulant is made of industrial plastic material and the encapsulant and the frame layer are integrally formed. It is design choice to use industrial plastic and integrally forms the encapsulant and the frame layer. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use industrial plastic and integrally forms the encapsulant and the frame layer to reduce manufacturing cost.

6. Regarding claim 3, ADPA in view of Narita discloses the invention above, ADPA in view of Narita does not disclose the transparent layer is a piece of transparent glass. It is design choice to use transparent glass. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use transparent glass to better protect the photosensitive chip.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Ko whose telephone number is 571-272-1926.

The examiner can normally be reached on Monday-Friday 7:30 - 4:00.

Art Unit: 2878

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TKO

  
DAVID PORTA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800